No. 11054

IN THE

United States Circuit Court of Appeals

FOR THE NINTH CIRCUIT

INTERNATIONAL CARBONIC ENGINEERING COMPANY,

Appellant.

vs.

NATURAL CARBONIC PRODUCTS, INC., a corporation, GEORGE PEPPERDINE FOUNDATION, a corporation, L. H. POLDERMAN, W. L. BENSON and C. B. BENSON, individually and as a copartnership doing business under the fictitious firm name and style of NATURAL CARBONIC PRODUCTS,

Appellees.

BRIEF FOR DEFENDANTS-APPELLEES.

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BRIEF FOR DEFENDANTS-APPELLEES.

Plaintiff-Appellant* (substituted for two joint plaintiffs) is the parent Delaware corporation holding legal title to a large number of patents relating to the manufacture of solid carbon dioxide, commonly known as

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*Appellant shall be referred to hereafter as "plaintiff" and appellees shall be referred to as "defendants". The printed record on appeal is in five volumes, Volume IV constituting printed copies of exhibits. Certain physical exhibits have not been reproduced but are available for use on appeal by stipulation. Reference to the printed record will hereafter be identified by volume and page only.

dry ice. The other original plaintiff was a subsidiary Delaware corporation holding rights to issue licenses under these patents. Plaintiff does not itself manufacture machines nor engage in the manufacture of dry ice.

Defendant NATURAL CARBONIC PRODUCTS, INC., and later NATURAL CARBONIC PRODUCTS, a co-partnership, was engaged in manufacturing solid carbon dioxide or dry ice in block form and had a plant near Niland in Imperial Valley, California. Defendant was using two types of presses—Frick presses and H. P. M. presses. Plaintiff filed action alleging infringement of claims 4, 31, 32, 33, 34 and 36 (relating to a machine or press) and claims 38 and 39 (relating to a method of procedure) of patent No. 2,025,698 issued to Cole and McLaren in December of 1935. The case was tried over a period of seven weeks before the late Judge Ralph E. Jenney, sitting in the Southern District of California, Central Division. The detailed and comprehensive decision of the Trial Judge is reported at 57 F. Supp. 248, 62 USPQ 412, and appears here as Vol. V. The patent in suit was held invalid on a number of sound grounds discussed in the Trial Court's decision.

The Trial Court made thirty-one specific findings of fact [I. 71-82]. As shown by the specification of errors appearing page 21 of plaintiff's brief on appeal, only eleven of these findings are alleged to be in error. The table appearing on page 7 of this (defendants') brief enumerates these eleven findings and locates discussion thereof in both plaintiff's and defendants' briefs so that the work of this Court in considering the appeal can be facilitated.

The unchallenged findings (particular Findings 22, 23, 26 and 27) and the evidence in this case convincingly show that long before Cole and McLaren filed their application for the patent in suit solid carbon dioxide was

known as an article of commerce. The physical properties of carbon dioxide were well known. Carbon dioxide (CO_2) is normally a gas but when subjected to high pressure it is converted into a liquid. When the pressure upon the liquid is rapidly reduced (as by injecting liquid CO_2 into a chamber), the liquid CO_2 evaporates in part and the rest of the liquid forms a solid known as carbon dioxide snow. The unsolidified gas is normally returned to the liquefying system for reuse. The snow is compressed into blocks in the same manner that any other material, such as clay, salt, scrap metal, cottonseed, etc., is pressed into blocks.

Carbon dioxide snow was made in 1845 and its manufacture is a classical college demonstration. The inherent natural property of carbon dioxide to exist in liquid, gaseous and solid forms simultaneously at the so-called triple point was known for many years prior to Cole and McLaren [I. 206]. This triple point occurs at about 60 pounds pressure. The solid carbon dioxide formed below triple point pressure is indistinguishable from the solid formed above triple point, except to experts. The patent in suit does not mention triple point solidification [III. 1133, 1134, 1135].

Plaintiff's expert, Dr. Jones, admitted that he personally knew blocks of solid CO_2 were being commercially made in this country in 1924 [I. 211, 268-269]. Patents showing presses for making large blocks of dry ice were published as early as 1895 [British patent No. 7436 to Elworthy, Dfts. Ex. EE-27; IV. 1539-1546]. Plaintiff's expert also admitted that sticks or rods of solid CO_2 were made and used by dermatologists and the medical profession prior to 1926 and long prior to the filing date (May, 1928) of the patent in suit. These devices were similar to those shown in the Fleming and Julius patents [Dfts. Exs. EE-8 and EE-9; IV. 1444-1450].

Large scale commercial manufacture of solid CO_2 was conducted in 1925 in the so-called Martin snow tanks. Because of their simplicity and cheapness, snow tanks were used extensively in nine or ten plants between the years 1925 and 1934.

A snow tank is shown in Plaintiff's Ex. 6 [IV. 1330]. Unchallenged Finding 22 well describes the construction and operation of a snow tank.

Claims 4, 31, 32, 33, 34 and 36 relate to a press. But presses are old; brick have been made for a century in presses which have a mold including side walls, a movable bottom, and a pressing plunger or head. The side walls of a mold hold and restrain the material which is being compressed therein, whether it is clay, cotton, cottonseed, salt for cattle salt-blocks, or ordinary snow which youngsters are pressing into blocks for snow forts. The pressing plunger exerts pressure; its function does not change with the material in the chamber or mold. There is no invention in substituting an hydraulic means for a mechanical means for moving the pressing plunger. The elements of the press of the claims of the patent in suit can be found in any one of many old presses. The press of the patent contains the same old elements in the same relationship, with the same old functions.

Defendants proved during trial and plaintiff's expert admitted that prior to the asserted date of invention of the patent in suit a man skilled in the art possessed all of the knowledge necessary to build and operate a press as claimed in the patent in suit. Such man knew the physical properties of CO_2 and the conditions under which it would solidify [I. 206, 268, 269-270, 367-368; III. 1101-1104, 1162]. Such man knew what thickness of walls to use in the press [III. 1103-1104]; what size block was commercially desired [II. 616; III. 1165-1167,

1177-1178]; what size inlet for liquid CO_2 should be used [III. 1103-1105, 1165-1167]; and what the relative size of inlets and outlets to the solidification chamber should be [III. 1105-1106, 1165-1167]. Such man working in this art knew that presses with a removable head and a plunger were available [I. 214-215]; he also knew of the snow tank, the fact that snow had been compressed into blocks by the use of an hydraulic press [I. 240-241, 264-265, 357-362], and many other factors.

Such prior knowledge is set forth in unchallenged Finding 23. Such prior knowledge was considered by the Trial Court in rendering its opinion [see V. 1645-1648]. There is no invention in applying this knowledge to the prior patents.

> "A mere carrying forward of the original thought, a change only in form, proportions or degree, doing the same thing in the same way, by substantially the same means, with better results, is not such an invention as will sustain a patent."
>
> *Railway Supply Co. v. Elvira Iron Co.,* 244 U. S. 285, 292.

In the snow tank operation [illustrated in Pltfs. Ex. 6; IV. 1330] solidified CO_2 was made in the tank and then shoveled into a mold and compressed into a block in the adjacent press. This was common practice in 1925. In 1925 Mr. James W. Martin constructed and commercially used a unitary press wherein the snow was formed and compressed in one machine. He simply brought the parts together, and the desirability of doing this was previously indicated by Elworthy, Haynes, and other patentees.

The Martin machine is illustrated in Defendants' Ex. L [IV. 1373].

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The Martin machine is illustrated in Defendants' Ex. L [IV. 1373].

> "Merely bringing old devices into juxtaposition and there allowing each to work out its own effect without the production of something novel, is not invention."
>
> *Hailes v. Van Wormer,* 20 Wall. 353, 368.

It is contended that if any invention was made, such invention was made and reduced to commercial practice by Martin in 1925; it certainly was not made by Cole and McLaren.

In view of the wealth of prior knowledge, as indicated by uncontradicted evidence and unchallenged findings, the Court may well ask: "What did Cole and McLaren invent?"

Plaintiff admitted, in its bill of particulars:

> "Plaintiffs do not assert in this case that any element of any of said claims is in and of itself new and patentable apart from the combination defined in the claims." [I. 3].

The plaintiff should have stated, with greater truthfulness: "There is nothing new and patentable in any of the claims."

Brief Summary of Argument.

The patent in suit was inadvertently issued. The Patent Office did not consider prior patents before the Trial Court and knowledge of prior use by Martin was not presented to the examiner.

The file history shows that the claims had to be limited to a closed or sealed chamber. Many claims are incomplete and inoperative. The claims are invalid for failure to comply with R. S. 4888.

The patent in suit is invalid because the claims do not define an invention and the patent was not issued to the first inventors of that which is defined in the claims.

The unchallenged findings and the prior patents and knowledge show that there is no invention in the patent in suit.

The claims are completely anticipated by the prior use by Martin in the spring of 1925, three years before the patent in suit was applied for.

The claims are invalid on the ground that they cover an aggregation of old elements without new or unexpected result.

Since the patent is invalid, the question of infringement is moot; defendants use knowledge which is in the public domain.

Appellant's Specification of Errors (Plaintiff's Brief, page 21)			Discussed in Plaintiff-Appelant's Brief	Discussed in Defendants-Appellees' Brief
Number	Finding	Record Page	Page	Page
1	28	80	22, 30-42	42-48
2	18, 19	75-76	22-23, 42-68	51-62
3	23, 29	78, 81	24-25, 71-91	27-30; 42-48
4	20	76	25, 69-71	31-33
5	21	76	26, 90-95	33-41
6	24	79	26-27, 96-101	62-65
7	16	75	27-28, 77-89	16-22
8	30	81	28-29, 101-117	67-68
	31	82	No discussion	65-66

The Patent in Suit.

Before discussing the reasons why the patent in suit is invalid, this Court should consider the background of the patent and its patentees.

Harry W. Cole was manager of General Carbonic plants in New York and thereabouts in 1924 and following years [I. 323]. Malcolm W. McLaren was superintendent of the Long Island City plant of General Carbonic, this plant being located at Sixth and East River.

J. W. Martin was employed by Prest-Air Corp., later known as Dry Ice Corp., during 1925 to 1928. In January of 1925 he built his unitary machine for making blocks of CO_2. The machine was placed in operation at the Maspeth, Long Island City plant of Liquid Carbonic in March of 1925 [II. 538-539]. Martin and Dry Ice Corp. made dry ice at the plants of Liquid Carbonic and General Carbonic because they wanted to be at the source of the liquid carbon dioxide.

McLaren filed an application for patent alleging to be the **sole** inventor thereof, on October 29, 1926 [Defts. Exs. OO, OO-1, and OO-2]. This application showed a horizontal type machine for making solid carbon dioxide and pressing it into blocks. This sole McLaren application was abandoned by predecessors of plaintiff. McLaren admitted during trial that several of the sworn statements in his patent application **are untrue and were known to him to be untrue** at the time he signed the application [III. 1029-1031].

> "Q. Do you wish the court to understand that it is now your statement that you should not have signed this oath on page 18 of Defendants' Exhibit

> OO, where you swore that you believed yourself to be the original, first and sole inventor of the improvement in method and apparatus for forming gases into solid blocks, described and claimed in the foregoing specification? A. I do." [III. 1033.]

There is evidence to show that McLaren derived his knowledge from Martin: this explains the reason for his testimony.

Martin had filed an application for patent December 6, 1926 (about one and one-half years before the filing of the patent in suit) [Defts. Ex. Q], such application disclosing the formation of snow and its compression into blocks in the same apparatus. This application was also owned by plaintiff's predecessor and was abandoned in 1935, even though it contained allowed claims particularly directed to substantially the same apparatus and operation as the patent in suit.

It appears, therefore, that

1. Cole and McLaren were not in fact joint inventors.

2. Plaintiff's predecessor suppressed and concealed earlier applications and permitted a patent to issue to those who were not in fact the first inventors.

Patent No. 2,025,698 in suit [Filed May 22, 1928] describes an arrangement wherein carbon dioxide gas is drawn into the system by an exhauster 11 and stored in a gas holder 12. The gaseous carbon dioxide in the gas holder 12 and in the lines connected thereto is at a

pressure of less than 2 pounds [II. 655; I. 196]. The gas is then placed under high pressure by the compressor 15 and sent by line 16 through an oil separator 21, then through a condenser 24 and through a filter or moisture-eliminator 30. The now cold, liquefied gas is sent by lines 38 and 51 to a nozzle extending into the press. In Fig. 1 the nozzle extends into the lower part of chamber 50 which, with the bottom chamber 60, forms the snow and compression chamber.

The press shown in Fig. 1 is also shown in enlarged form in Fig. 2 of the patent. This press includes the chamber or container composed of the upper and lower sections 50 and 60, and is provided with a pressing plunger 61 and with a closure lid or head 70. The pressing plunger and the head are movable by fluid pressure, hydraulic, or other means. That portion of the liquid carbon dioxide which does not form snow is discharged from the press and conveyed by line 80 to an exhauster 81. The exhauster actually **withdraws or sucks** this gas out of the snow chamber and pushes it through the expansion tank 82 and line 83 back again into the gas holder 12.

In the event the pressure in line 80 (and chambers 50 and 60 or in chamber 100 in Fig. 5) falls below the pressure in 82 or 83, then valve 84 opens to let gas flow in the direction of the arrows through the valve, thereby preventing the exhauster 81 from creating a high vacuum in 80, 50 and 60.

The patent states:

> "Around the exhauster 81 a by-pass is provided in which is a diaphragm valve 84 which may be set to maintain **automatically** a definite pressure condition within the interconnected chambers 50 and 60 * * *." (Page 2, col. 1, lines 14-18.)

Therefore, the definite pressure referred to in the claims is a pressure of 1 pound, ½ pound, zero, or slightly below zero, as stated by plaintiff's expert [III. 1135]. The only means for maintaining such "definite" pressure is the exhauster 81 and automatic valve 84.

It is also to be noted that the flow of liquid carbon dioxide into the press is controlled automatically by valve 39 [II. 654]. It is evident, therefore, that Cole and McLaren desire to form snow in the chambers 50-60 of Figs. 1 and 2 (or in the chamber 100 of the alternative form of press) without at any time permitting the pressure to exceed about 1 or 2 pounds gauge. They made provision, by exhauster 81, to suck or withdraw all gas from the press and drive it into the tank 82 and gas holder 12.

Since the exhauster 81 is connected by line 80 to the chamber of the press, it had to be sealed and made gas tight by the head 70. When the alternative press of Fig. 5 is used, then the liquid carbon dioxide is introduced through the nozzle opening 51(a), the unsolidified gas is withdrawn from the chamber, and the bottom of the chamber is closed gas-tight by means of the closure 107.

When Cole and McLaren speak of a **closed** chamber they mean a chamber that is actually **sealed** from the atmosphere; gas tight; hermetically sealed; capable of holding a pressure of 50 pounds [I. 285]. The history of proceedings had in the Patent Office while the patent in suit was being prosecuted definitely shows that Cole and McLaren purposely amended their claims so as to refer to a gas-tight chamber or closed chamber. In distinguishing from the prior references they called attention to the fact that the claims were amended by the insertion of the words "gas tight," stating:

> "Moreover, this clearly differentiates this invention from the disclosures in Elworthy and Holden." [Defts. Ex. PP, pp. 36-37.]

With reference to claim 8, which they were soliciting, the Patent Office stated:

> "It specifies a closed compression chamber." [Defts. Ex. PP, p. 39.]

As late as November 18, 1935, the patentees were representing to the Patent Office that the step of "withdrawing the unsolidified gas" was an important distinction [Ex. PP, p. 137] and that "* * * these claims definitely require a compression chamber that is closed from atmosphere * * *" [Ex. PP. p. 138]. Every claim in suit emphasizes that the chamber in which the carbon dioxide is solidified and compressed is sealed or closed. The following tabulation quotes the words in each claim:

Claim 4: "closed compression chamber";

Claim 31: "normally closed and gas-tight";

Claim 32: closed "to seal the chamber gas-tight";

Claim 33: closure "in chamber closing position" is "to seal chamber from atmosphere";

Claim 34: "sealing the chamber from the atmosphere";

Claim 36: "to seal the chamber from atmosphere";

Claim 38: "closed chamber that is sealed from the atmosphere";

Claim 39: "chamber that is closed to atmosphere."

Having thus voluntarily limited themselves at the insistence of the Patent Office, these words become **words of limitation.** These limitations can not be disregarded.

> "In patents for combinations of mechanism, limitations and provisos, imposed by the inventor, especially such as were introduced into an application after it had been persistently rejected, must be strictly con-

strued, against the inventor, and in favor of the public, and looked upon as in the nature of disclaimers."

Sargent v. Hall Safe and Lock Company, 114 U. S. 63, at 86.

Also see:

Fay v. Cordesman, 109 U. S. 408, 420;

Computing Scale Co. v. Automatic Scale Co., 204 U. S. 609, 617;

Hubbell v. United States, 179 U. S. 77, 80.

The patent is limited to what is defined in the claims in suit. Since the elements are few, the essence of the claims is shown in tabulated form:

	chamber mold or container	closure lid or head	means for opening chamber	supply or inlet	outlet for gas	pressing plunger	means for moving plunger
Claim 4	yes	yes	yes	yes		yes	yes
Claim 31	yes		yes	yes	yes	yes	yes
Claim 32	yes	yes	yes	yes	yes	yes	
Claim 33	yes	yes	yes			yes	yes
Claim 34	yes	yes	yes	yes	yes	yes	yes
Claim 36	yes	yes	yes	yes	yes	yes	yes

It is to be noted that claim 33 does not include either an inlet means or an outlet for gas. Claim 31 does not provide a closure or head for the press. Claim 4 does not include an outlet for the gas. In claim 32 there are no means provided for moving the plunger. All of these claims, therefore, are incomplete. Even plaintiff's expert admitted that you must always have some way of getting liquid gas into the chamber and some means for the escape of the unsolidified gas [I. 226, 227].

The invalidity of the claims by reason of their incompleteness, lack of utility, indefiniteness, and failure to de-

fine an invention in a statutory manner, is discussed in greater detail on pages 33 and 41 hereof.

Claims 38 and 39 purportedly describe a method but there is no justification for such method claims in the patent in suit. A process was not described in the Cole and McLaren application when it was filed and no claims for a process were solicited, as evidenced by Defendants' Exhibit PP. Seven and one-half years after filing their application and more than two years after many plants were practicing the process, the two method claims were added by an amendment on November 18, 1935 [see Ex. PP]. Although plaintiff represented to the Trial Court that the Cole and McLaren patent covered the formation of snow below and above the triple point, plaintiff's own expert witness admitted that the specification and drawings did not teach the manufacture of solidified CO_2 at the triple point [III. 1066]. Moreover, plaintiff does not question Finding 25, which states:

> "Claims 38 and 39 do not define or include the solidification of carbon dioxide under triple point conditions." [I. 79.]

Plaintiff's brief repeatedly alludes to commercial density of the block of solidified carbon dioxide and attempts to create the impression that only the machine of "Fig. 5" is capable of producing a block of "commercial density." This is another figment of plaintiff's imagination. **The patent in suit does not instruct pressing at any particular pressure.** It does not mention the pressure to be used in squeezing the snow into a block. In describing the operation it simply states that as the plunger advances it compresses the solidified carbon dioxide into a solid cake (p. 2 of patent, col. 2, lines 1-2). Plaintiff's expert admitted that the patent did not state a numerical value for density of the compressed block [III. 1180]. The fact re-

mains that one can operate a press so as to compress the material with more or less pressure; when higher pressures are used the block will be of greater density than when lower pressures are used. Plaintiff's expert correctly stated that the presses of the patent and any press may be used in producing blocks of variable density [III. 1179-1180].

Plaintiff's repeated comments about density are therefore another attempt to confuse the issue or to try the case upon fictitious issues and on premises which can not be found in the patent in suit.

Plaintiff also devotes much verbiage to a purported distinction between the patent in suit and the prior art, by talking about tamping. This is another imaginative issue. Plaintiff attempts to contend that the machine of "Fig. 5" permits the formation of a block of carbon dioxide in a single compressive movement of the piston but does not explain why any other press equipped with a piston could not also squeeze a charge of snow into a block with but a single compressive movement of the piston.

Attention is specifically called to the fact that there is nothing in the claims which defines a structure or a mode of operation which requires that the compression of snow be carried out by a single compressive movement of the piston. The claims of the patent in suit **do not exclude tamping** or the repeated compaction of solidified carbon dioxide by repeated compression strokes until a single solid block is obtained.

When the claims of the patent are stripped of their unnecessary verbiage and the actual elements are examined, it is seen that plaintiff's assertions are baseless and that the patent in suit is invalid. As stated by the Circuit Court of Appeals for the Seventh Circuit:

"It is not the title that interests us, but rather the elements in the combination that go to make up the claim. Courts cannot place premiums upon tongue-twisting combinations of words that merely evidence the ingenuity and acuteness of a linguistic gymnast."

Nye Tool & Machine Works v. Crown Die & Tool Co., 292 Fed. 851, 853.

The Trial Court Correctly Held That the Patent Describes Two Alternative Forms of the Same Machine.

Plaintiff has consistently attempted to confuse the Court by raising fictitious issues in the hope that the Court will lose sight of the invalid character of the patent.

One fallacious contention advanced by the plaintiff is that this action is for infringement of Fig. 5 of the patent in suit. There are one hundred and five references to Fig. 5 in plaintiff's brief. Fig. 5 is but one exemplary drawing of the patent in suit. The patent does not grant rights upon a drawing; the scope of the patent is defined in the claims. The owner of a patent does not bring an action for infringement of a drawing; the action is brought for alleged infringement of claims.

"It is the claims of a patent, not its specifications, which measure the invention."

Reinharts, Inc., v. Caterpillar Tractor Company (C. C. A. 9), 85 F. (2d) 628, citing

Smith v. Snow, 294 U. S. 1, 11;

Altoona Publix Theatres v. American Tri-Ergon Corp., 294 U. S. 477, at 487;

Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U. S. 405, at 419.

Also see:

Wilson & Willard Mfg. Co. v. Union Tool Co. et al. (C. C. A. 9), 249 U. S. 729, at 734.

Another fallacious assertion is that the claims in issue are directed to a vertical apparatus and that there is some mysterious efficacy in the fact that the apparatus is vertical. In setting up this straw man in its brief, plaintiff has used the words "vertical" and "vertically" more than one hundred and thirty times. Repetition of the word "vertical" does not change the facts, which amply support the Trial Court's Finding 16 [I. 74] reading as follows:

> "16. The patent in suit describes two forms of machines for making blocks of solidified carbon dioxide, one illustrated in Figs. 1, 2 and 3, and the other illustrated in Fig. 5. Both machines are to be used with a liquefying and pressure control system, shown in Fig. 1. The machine of Fig. 2 is a horizontal machine and that of Fig. 5 is a vertical machine. Both machines include the same structural elements and the relationship between those elements is identical in the two machines. Both machines perform the same function and produce the same result."

Fig. 1 of the patent in suit is a piping diagram showing the system selected by the patentees in handling a gas, compressing and liquefying the gas, expanding the gas in a so-called snow chamber, and compressing the solidified gas into a block. The press illustrated in Fig. 1 is a horizontal press. Figs. 2 and 3 are enlarged views of this horizontal form of press. As stated in the patent (p. 1, col. 1, lines 24-27):

> "Fig. 5 is a sectional elevation of a modified form of that part of the mechanism which is shown in Figs. 2 and 3;"

Dr. Jones, plaintiff's expert, admitted that the apparatus of Fig. 5 may be substituted for the snow compressing apparatus appearing in Fig. 1 of the patent [I. 197] and further testified as follows:

"Q. The patent in suit illustrates and describes two different forms of apparatus. Both of those forms are commercially practicable? A. That is true.

The Court: Let us make that clear for the record; just what you mean by those two forms.

Mr. Foster: One form of apparatus stated and described in the patent in suit is that illustrated in Figs. 1, 2 and 3; is that correct?

The Court: The horizontal press?

Mr. Foster: The horizontal type. Figures 2 and 3.

Q. With that qualification, your answer is yes? A. Yes.

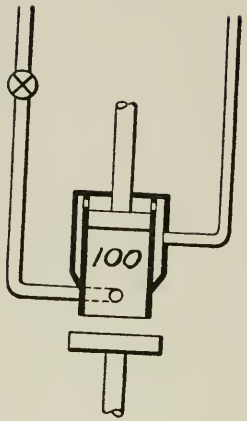
Q. The other form of apparatus is that illustrated in Figs. 5 and 6 of the patent in suit? A. That is correct.

Q. And both of those two forms of apparatus are to be used with the piping shown in Fig. 1, in accordance with the statements of the patent? A. That is correct." [III. 1167-1168.]

* * * * * * * *

"Q. Do you believe that with the apparatus illustrated in Figure 2, there could be produced a block of commercial size, 10 by 10, and of commercial density? A. Yes." [III. 1199.]

* * * * * * * * * *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"Q. And the press of Fig. 5 can be substituted for the press shown in Fig. 1? A. It can be so substituted.

Q. And used to produce blocks of solid carbon dioxide? A. Yes.

Q. And the press of Figs. 1 and 2 of the patent is also for the purpose of producing blocks of solid carbon dioxide?

* * * * * * * *

A. Yes." [I. 272-273.]

The patent, then, illustrates a horizontal press and a vertical press. These two can be **substituted** one for the other in the piping diagram of Fig. 1. Both of them are commercially practicable. The ease with which such substitution can be made is illustrated by the appended Chart I, which is a simplified version of Fig. 1, the vertical type of press being shown on the movable flap so that its relationship to the piping diagram may be readily visualized.

Since the horizontal press and the vertical press are both commercially practicable, there is no mysterious efficacy in a vertical apparatus. It may occupy somewhat less floor space but the fact remains that there is **no invention** in arranging a press so that it points north, south or east, nor is there any invention in turning a press over so that it is vertical instead of horizontal. As a matter of fact, claims 4, 31, 32, 33 and 36 do not specify a vertical position. Claim 34 is the only claim which specifically calls for a vertical position. It is improper to read into a claim a limitation which does not appear therein.

Plaintiff is objecting to Finding 16 and is laying stress upon Fig. 5 and the word "vertical" in an attempt to distract attention from the fact that the horizontal press of Figs. 1, 2 and 3 is substantially the same as the press for producing blocks of solid carbon dioxide shown by Elworth in British patent No. 7436 of 1895 [Defts. Ex. EE27, IV. 1539-1546]. The following diagram illustrates the substantial identity between the horizontal press of the patent in suit (Chart II, Fig. 1) and the horizontal press of the old Elworthy patent of 1895 (Chart II, Fig. 2).

It is to be noted that in the horizontal press of the patent in suit (and in Elworthy) snow is formed in the upper portion, then falls into the lower portion and is compressed in such lower portion. Plaintiff's expert Dr. Jones has admitted that these two portions, and identified by the numbers 50 and 60 in Fig. 1 of the patent in suit, together constitute a chamber.

> "Q. The chambers 50 and 60, together, constitute a chamber, do they not? A. They do." [III. 1137.]

Jones admitted that considerable variation in size can exist between 50 and 60 [III. 1138]. The genesis of a vertical press from a horizontal press is shown on Chart II. Since considerable variation can exist between 50 and 60, as admitted by Dr. Jones, it is only necessary to progressively reduce the size of the chamber 50 (as indicated in Figs. 3, 4 and 5) until such chamber is reduced to a negligible size. The press can then be turned on its end (Fig. 6) and the result is a vertical press. All claims of the patent in suit (except claim 34) read upon Figs. 1 to 6, inclusive; claim 34 reads upon Fig. 6.

It is contended that there is **no invention in changing the position** of an apparatus with respect to the points of the compass or with respect to the vertical. It is submitted that there is **no invention in the size** of an appa-

FIG. 1.

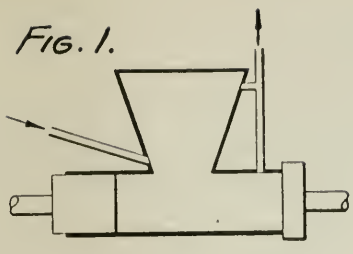


FIG. 2.

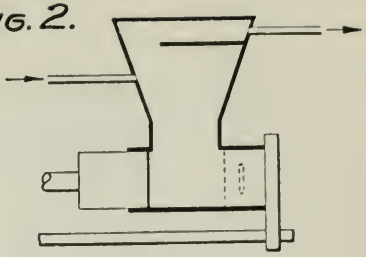


FIG. 3.

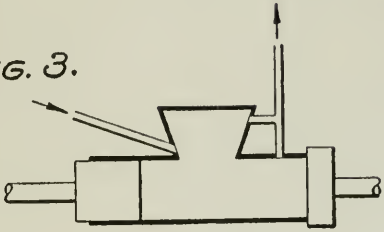


FIG. 4.

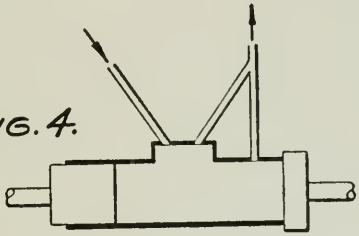


FIG. 5.

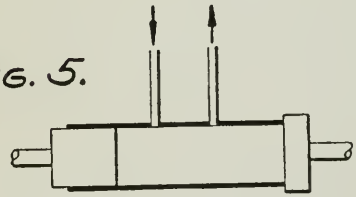
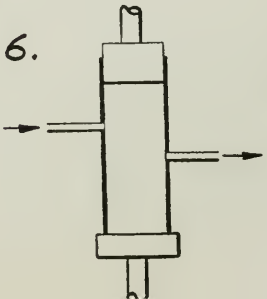


FIG. 6.



ratus. It is submitted that there is **no invention in changing form.** It is submitted that there is **no invention in changing the proportions** of an apparatus.

Since there is no inventive difference between the horizontal press of the patent in suit and the vertical press, there can be no inventive difference between the vertical press and the old Elworthy press of 1895.

There is still another reason why plaintiff does not like to talk about the horizontal type of press and that is because the United States Patent Office had rendered a judgment, dated October 12, 1935, awarding priority as to the horizontal press of the Cole and McLaren patent to one Gustave T. Reich [Defts. Ex. RR; IV. 1581-1591]. The United States Patent Office had held that the following claim, for example, was not the invention of Cole and McLaren but instead was the invention of Reich:

> "A refrigerating apparatus, comprising an expansion chamber, a compression chamber below and in gas-tight communication with the expansion chamber, rotary scrapers in the expansion chamber above said communication, means for expanding liquefied gas to produce an accumulation of solidified gas in the compression chamber, and means for compressing said solid in said compression chamber." (Count 6.)

In other words, even the use of the scrapers in the upper portion 50 of the chamber was not invented by Cole and McLaren. The Elworthy press did not include scrapers but the addition of scrapers to the upper chamber was not invented by Cole and McLaren.

Even a visual comparison of the horizontal and vertical presses clearly shows that both forms of apparatus include the same structural elements. Both of these machines consist of a chamber, means for admitting liquid CO_2 into the chamber, means for withdrawing unsolidified gas from

the chamber, a pressing plunger, and a removable closure. As established by plaintiff's own testimony, the machines perform the same function and both can be used in the production of blocks of solid CO_2. They are both commercially practicable.

It is therefore submitted that Finding 16 is clearly substantiated by the evidence.

Findings of Trial Court Should Not Be Disturbed.

The record of this case shows that the evidence presented during trial was very carefully studied by the trial court, a comprehensive opinion rendered and detailed findings prepared. Relatively few findings form the basis of plaintiff's appeal. Many of the findings have not been assigned as error. These unchallenged findings alone adequately support the decree of the trial court and supply sound basis for the holding that the patent in suit is invalid.

The question on appeal is whether the evidence sustains these findings and the rule is well established that the Appellate Court will not disturb findings unless there is an obvious mistake of fact or serious error of law.

The Rules of Civil Procedure state:

> "Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity of the trial court to judge of the credibility of the witnesses." (Rule 52(a).)

This Court has repeatedly enunciated and applied this rule even long before it was formally promulgated. In 1893 this Court stated:

> "The rule is well settled that in cases on appeal in admiralty, when the questions of fact are dependent upon conflicting evidence, the decision of

the district judge, who had the opportunity of seeing the witnesses and judging their appearance, manner and credibility, will not be reversed unless it clearly appears that the decision is against the evidence." (*The Alijandro,* 56 Fed. 621, 624 (C. C. A. 9).)

In 1903 this Court expressed the same rule in slightly different words as follows:

> "* * * it is nevertheless the settled practice to give great weight to the findings of fact by the trial judge, and not to disturb such findings, in cases of conflicting testimony, unless they are found to be clearly against the weight of the evidence." (*Oscar B,* 121 Fed. 978, 981 (C. C. A. 9).)

The Court has restated the rule repeatedly in recent years in the following cases:

Chas. H. Lilly Co., et al, v. I. F. Laucks, Inc., 68 F. (2d) 175 (C. C. A. 9);

Lillig v. Union Sulphur Co., 87 F. (2d) 277, 278 (C. C. A. 9);

Metro-Goldwyn-Mayer Corporation v. Fear, 104 F. (2d) 892 (C. C. A. 9);

Hann v. Venetian Blind Corporation, et al., 111 F. (2d) 455 (C. C. A. 9);

Marchus v. Drudge, et al., 136 F. (2d) 602, C. C. A. 9).

The rule is well founded and has been referred to and stated with approval by the United States Supreme Court (*Adamson v. Gilliland,* 242 U. S. 350, 61 L. Ed. 356). Overwhelming authorities support this rule.

> "As to many of the facts of importance, and as found by the district judge, there seems to be no

real dispute, while as to others there is sharp conflict in the evidence, which, however, was solved in favor of appellees by a judge who had opportunity to determine the truthfulness of the statements of the several witnesses, heard them testify, and observed their demeanor, intelligence, and candor while upon the stand. We should be slow to depart from the well-recognized rule of following the findings of the trial court in the circumstances, and which is supported by the almost unanimous decisions of the federal courts. Adamson v. Gilliland, 242 U. S. 350, 37 S. Ct. 169, 61 L. Ed. 356; Mason v. United States, 260 U. S. 546, 556, 43 S. Ct. 200, 67 L. Ed. 396; Espenschied v. Baum, 115 F. 793, 53 C. C. A. 368; American, etc. v. Moorehead, 226 F. 202, 141 C. C. A. 129; Westerman v. Dispatch, etc. Co., 233 F. 609, 147 C. C. A. 417; United States v. Grass Creek O. & G. Co., 236 F. 481, 149 C. C. A. 533; Stratton v. Buller (C. C. A.), 268 F. 825; McGovern v. McClintic-Marshall Co. (C. C. A.), 269 F. 916." (*Keeton v. Jefferson Standard Life Ins. Co.*, 5 F. (2d) 183, at 186 (C. C. A. 4).)

The late Judge Jenney not only carefully considered the facts but had an opportunity of seeing, observing, hearing and even personally questioning the witnesses. In his opinion he refers to defendants' witnesses Martin and Hood in the following words:

> "Martin made a very good impression upon the court. He seemed to be trying to tell the truth with meticulous care and to remember exactly how the machine was designed, constructed and operated." [V. 1632.]

> "Walter Lee Hood is also an engineer of standing and ability, a resident of Houston, Texas, not now engaged in the dry ice industry in any way, or in

any way financially or otherwise interested in the plaintiff or defendant companies." [V. 1633.]

"As was the case with Mr. Martin, the court was much impressed with the testimony of Mr. Hood." [V. 1636.]

Your Honors' language from the *Hann v. Venetian Blind Corporation* case, *supra,* is therefore particularly applicable.

"These facts, together with the fact that the trial judge, who saw and heard the witnesses, is in a better position to determine their credibility and the weight to be attached to their testimony than the reviewing court, lead us to the conclusion that the findings of the trial court should not be set aside." [460.]

The witnesses for the plaintiffs had a definite interest in the action. Mr. Cole, one of the joint patentees of the patent in suit, is a director of one of the plaintiffs and a director and officer of the other plaintiff. He receives a salary from the plaintiff. He and his family own a thirty per cent interest in Metropolitan Carbonic Co., which owns twenty-five per cent of the common stock of the parent plaintiff. The parent plaintiff owns all of the stock of the other plaintiff.

Mr. McLaren (the other co-patentee) and his family, own one-third of the stock of Metropolitan Carbonic Co. and therefore McLaren has a direct interest in the litigation. In addition, the testimony of Messrs. Cole and McLaren was not convincing and it was not positive, causing the trial court to comment in his opinion that

"Frankly, the court was not favorably impressed by the testimony of either Mr. McLaren or Mr. Cole." [V. 1643.]

Plaintiff's purported expert, Dr. Jones, had been an engineer with Dry Ice Corporation of America from 1928 to 1934 and had acted as a patent expert in the famous Carbice case [I. 204].

Since 1938, Dr. Jones had been under a retainer from the plaintiff, advising it in patent matters [I. 203; III. 1065]. His testimony was argumentative in character and primarily directed to operations, modifications and machines which he observed after the application for the patent in suit had been filed. These machines and operations which Mr. Jones, described are not specifically described in the patent in suit.

The evidence supports the findings. The trial court's painstaking opinion discusses the evidence and shows that the findings were inevitable. Plaintiff has not been able to point out error. The findings and judgment should not be disturbed.

Unchallenged Findings Support the Judgment of the Trial Court.

The patent in suit should be studied in the light of the art known before the alleged invention by Cole and McLaren. As previously indicated, one of the prior art methods of making solidified carbon dioxide and solid commercial blocks thereof was the snow tank method. The snow tank apparatus and its method of operation are well described in Finding 22. Plaintiff does not specify this finding as being in error and therefore it stands as admitted and as being an accurate statement of facts. These facts were uncontroverted and the record clearly and unequivocably supports Finding 22, which appears on pages 76 and 77 of the printed transcript in this case.

Plaintiff's brief, pages 12 and 13, is a restatement of Finding 22. On page 96 of its brief plaintiff has the following to say about the snow tank method:

> "Admittedly solid carbon dioxide in the Martin snow tank method, for example, was formed in a chamber which was closed to the atmosphere. Admittedly pressing of the solid carbon dioxide by means of presses was done at another point after the carbon dioxide had been transmitted in the open atmosphere to the place of pressing. Admittedly solid carbon dioxide blocks were formed by pressing, which were sold in commerce."

By its own admission, therefore, plaintiff concedes that blocks of solid carbon dioxide were sold in commerce long before the purported patent in suit. Since it was old to make CO_2 snow, compress it into blocks and sell them, is there any invention in using an old press in an old process?

The plaintiff does not object to Finding 23; its objection is directed only to the last sentence of this finding which reads:

> "The patent in suit lacks invention in view of the state of the art."

It appears that plaintiff admits all of the factual statements appearing in Finding 23 since on page 91 of its brief the following is stated:

> "All of these factors or elements are well known in the art as specifically found in Finding 23.
>
> "If the lower court was referring to the factors and elements covered in the testimony of Prof. Clapp [II. 771-774], then such elements and factors are either included in Finding 23 of being well known

in the art or shown to be well known in the art by the testimony of Dr. Jones [III. 1103-1112]."

It is evident, therefore, that plaintiff admits the accuracy of Finding 23 but simply disagrees with the trial court's holding that the patent in suit is invalid. Finding 23 alone is sufficient to sustain the conclusion that the patent in suit is invalid. As indicated by the above quotation from plaintiff's own brief, both plaintiff's and defendants' witnesses admitted to each of the following elements of Finding 23:

"23. Prior to the earlier date of conception asserted by plaintiffs for the invention of the patent in suit, there was known to, or readily determinable without invention by, a man skilled in the art to which such patent relates,

that carbon dioxide solid was an article of commerce since 1907;

that solid carbon dioxide could be formed by discharging liquid carbon dioxide into an air-tight, gas-tight chamber and relieving the pressure thereon;

that in order to accomplish such solidification it was necessary to withdraw carbon dioxide in gaseous form from the gas-tight chamber [107],

that at the triple point pressure of 60.4 pounds per square inch gauge carbon dioxide ice could be formed in such a chamber;

that solid carbon dioxide was formed in such a chamber by the evaporation of the liquid and that the carbon dioxide could be compressed in the same chamber;

that the temperature of the liquid carbon dioxide supplied to the snow chamber affected the yield of snow;

that solid carbon dioxide so produced could be compressed into blocks as a commercial commodity;

that it was necessary during such compression of solid carbon dioxide into blocks to permit the gas to escape in order to produce a stable block;

that pressing a material from both the top and bottom increased the density of the product;

that a commercial size of the block was 10 x 10 inches;

and that it was not necessary to tamp triple point carbon dioxide before pressing it into blocks.

"It was common practice in the prior art to press the carbon dioxide into blocks while permitting the escape of gas to the atmosphere.

The proper thickness of walls to sustain the desired pressure, the volume of gas generated when the liquid carbon dioxide was introduced into the chamber, the relative size of the inlets and outlets to the chamber, all were readily determinable without invention by a man skilled in the art.

"Devices commonly known in the prior art included the proper type of nozzles or inlets to supply liquid carbon dioxide to the apparatus,

exhausters of the type employed in the patent in suit and their method of installation and operation,

devices for reducing the pressure to atmospheric pressure during pressing operations,

laboratory devices for forming and compressing solidified carbon dioxide similar to those disclosed in the Fleming and Julius patents,

presses including a chamber with a movable and removable head and a plunger capable of compressing material in the chamber against the head.

The patent in suit lacks invention in view of the state of the art. [108]." [I. 78-79].

With the exception of the last sentence, plaintiff and defendants are in agreement. Under those circumstances, how could the trial court hold the patent valid? Every factor necessary to answer the requirements of both the method and apparatus claims virtually stands admitted as being old and well known prior to the earliest date of conception asserted by plaintiff for the patent in suit.

Plaintiff does not question Finding 26 [I. 79-80] nor Finding 27 [I. 80].

These unchallenged findings should not be disturbed. These findings have not been specified in the specification of errors appearing on page 21 of plaintiff's brief. Rule 20(2)d of the Rules of this Circuit Court provides that the brief shall contain a specification of errors relied upon. It also requires that in equity cases where findings are made,

> "* * * the specification shall state as particularly as may be wherein the findings of fact and conclusions of law are alleged to be erroneous."

Plaintiff has not referred to Findings 22, 23, 26 and 27. Defendants therefore rightly take the position that these findings are admitted and this Court may well decide that in the light of the admitted findings, the trial court correctly held the patent invalid.

Such procedure would be consonant with the procedure followed by this Court in the following cases:

Mason v. Anderson-Cottonwood Irr. Dis., 126 F. (2d) 921, 922;

Mutual Life Insurance Co. of New York v. Wells Fargo Bank & Union Trust Co., 86 F. (2d) 585, 587;

United States v. Los Angeles Soap Co., 83 F. (2d) 875, 889;

Hultman v. Tevis, 82 F. (2d) 940, 941;

Humphreys Gold Corp. v. Lewis, 90 F. (2d) 896, 897.

Admissions of Plaintiff's Own Expert Convincingly Show That the Claims Are Invalid.

A study of the prior patents shows that each and every element of every claim in suit herein is disclosed in the same relationship and with the same mode of operation in prior patents. Plaintiff's expert admitted that prior patents disclosed this combination. For example, in speaking of Holden patent No. 1,054,772 [Deft. Ex. EE-10; IV. 1452] he testified as follows:

> "Q. The Holden patent includes an **inlet,** does it not, or the machine of the Holden patent includes an inlet? A. Yes.
>
> Q. And it includes a **chamber?** A. Yes.
>
> Q. And it includes a **piston** movable in that chamber? A. Yes.
>
> Q. And it has a **closure head?** A. Yes.
>
> Q. And there are hydraulic **means for moving the piston and the closure head?** A. Yes.
>
> Q. And it includes an **outlet** for fluid gas? A. Yes." [III. 1125.]

The elements enumerated by Jones are **all** of the elements of the claims of the patent in suit. The chamber provides walls; the inlet provides means for supplying liquid carbon dioxide; the outlet permits the gas to escape; the closure closes the end of the chamber; the plunger compresses the material against the closure; the hydraulic means move the plunger and the closure head.

Having admitted that all of the claimed combination was old, plaintiff's expert tried to find something new or novel in the patent in suit, even if it was not in the claims. When asked what he considered to be new or in the nature of an invention about this patent in suit, he stated:

> "A. As to structural elements in the apparatus of Fig. 5, I see two elements there peculiar to its

use with carbon dioxide: The double jacket, 102, and the dividing or separating members 110. But with those minor exceptions I see no novel mechanical element in the apparatus itself whatsoever.

The Court: As I understand, this 110, that is a cross-like metallic member which is set on this head 107, which may be removed at will, but which avoids the necessity of sawing the block? A. Yes.

* * * * * * * *

"A. Yes, and which is not even used in the current art. As to the diagram in Fig. 1, there are several structural elements which I believe have novelty. One is the use of the diaphragm valve and exhauster in connection with the solidifying apparatus, and which, without discussing the sufficiency of what the specification says, shows an apparatus which works to produce what, so far as I know, is a new and useful result; that is, it automatically took care of the regulation of the pressure in the chamber, and of the functions of a vent to atmosphere." [III. 1170-1171.]

But these details are not in the claims. They can not be read into the claims. The patentees selected their own language and are bound by it.

"* * * It is thoroughly well established that the patentee is limited to his claim, and the patent is no broader than the claims, and, if the language of claims of the patent is clear and distinct, the patentee is bound by the language he has employed. Keystone Bridge Co. v. Phoenix Iron Co., 95 U. S. 274, 24 L. Ed. 344 * * *."

Wilson & Willard Mfg. Co. v. Union Tool Co., et al (C. C. A. 9), 249 Fed. 729, at 734.

A claim is not like a nose of wax; words of aclaim can not be changed to include something more or something different from what its words express. (*White v. Dunbar,* 119 U. S. 47, 51, 30 L. Ed. 303.

On the basis of the testimony quoted hereinabove, Finding 20 is inescapable and should be affirmed. Conclusions 7 to 11 should not be disturbed.

The Claims Do Not Comply With R. S. 4888 and Are Valid. INVALID

The Trial Court correctly held that the patent in suit does not comply with the requirements of 35 U. S. C. 33 (R. S. 4888) and is therefore void and invalid (Conclusion of law 5) [I. 82]. This conclusion is founded upon Finding 21 [I. 76] which reads as follows:

> "21. The claims relied upon are vague and indefinite as to some of the factors controlling the constructions and operation of the apparatus and the performance of the method, are functional as to some others, and totally silent as to others. The claims in issue are deficient in specifying those controlling factors necessary for the construction and operation of the apparatus and the performance of the method. The controlling factors and details are omitted from the specification and therefore the claims derive no assistance from the specification.
>
> "None of the claims in issue includes, as elements, the double jacket, the dividing and separating members, the exhauster, or the diaphragm valve. The claims in issue are not directed to the avoidance of tamping and therefore cover apparatus and methods in which tamping may or may not be performed."

As previously pointed out, a press for use in making solidified carbon dioxide should have a supply or inlet

line, through which the liquid CO_2 is admitted, in order to be operative. Claim 33 in suit herein does not provide for a supply or inlet and therefore relates to a totally inoperative aggregation of elements.

When liquid carbon dioxide is admitted into a chamber of a press, a part only of such liquid is solidified. The rest of it is converted into a gas and this gas must exit from the chamber. It is to be remembered that when liquid carbon dioxide is changed into a gas, the volume of gas is many times the volume of the liquid. Claims 4 and 33 in suit herein do not include an outlet for this unsolidified gas and therefore define a useless, inoperative machine.

Plaintiff's own expert testified:

> "* * * However, there must always be some way of getting the liquid gas into the chamber.
>
> Q. In order to have a practical device? A. Yes." [I. 226.]
>
> "* * * There must be a means for the escape of the carbon dioxide.
>
> Q. In order to have a practical device for the making of solid CO_2, is that correct? A. That is correct." [I. 226-227.]

Without an inlet or without an outlet the machines of claims 4 and 33 are inoperative and therefore invalid. It is unnecessary to call this Court's attention to the fact that a valid patent can only issue upon a machine which is new and useful. An inoperative machine is not useful and a claim on a machine which will not perform a useful function is invalid.

The general rule was admitted by plaintiff's counsel in the following:

> "The Court: If a man skilled in the art, an ordinary skilled mechanic, as of the time of the patent,

can't take the disclosures of that patent, both as to apparatus and methods, and build and operate a machine to accomplish the purpose for which the patent is intended, is the patent any good?

Mr. Morris: The disclosure is inadequate under R. S. 4888." [II. 775-776].

"Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it provided he specifies the means he uses in a manner so full and exact, that any one skilled in the science to which it appertains, can, by using the means he specifies, without any addition to, or subtraction from them, produce precisely the result he describes. And if this can not be done by the means he describes, the patent is void. And if it can be done, then the patent confers on him the exclusive right to use the means he specifies to produce the result or effect he describes, and nothing more."

O'Reilly et al. v. Morse et al., 15 How. 62, 118 (1853), 14 L. Ed. 601.

"Section 4888 of the Revised Statutes, 35 U. S. C. §33, requires that the applicant for a patent 'shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.' As the Court recently stated in General Electric Co. v. Wabash Corp., 304 U. S. 364, 'Patents, whether basic or for improvements, must comply accurately and precisely with the statutory requirements as to claims of invention or discovery.'"

> "To sustain claims so indefinite as not to give the notice required by the statute would be in direct contravention of the public interest which Congress therein recognized and sought to protect. Cf. Muncie Gear Works v. Outboard Marine & Manufacturing Co., 315 U. S. 759."
>
> *United Carbon Company et al. v. Binney & Smith Company,* 317 U. S. 228.

Claim 31 is incomplete because it does not include a closure lid or head for the chamber. Claim 32 is incomplete because it does not include any means for moving the plunger or piston.

Plaintiff's expert correctly stated that an inlet for liquid CO_2 and an outlet for the unsolidified gas are essential parts of an operative machine and must be accurately proportioned [I. 185]. In building the machine, the size of the chamber with respect to the size of the inlet openings and outlet openings is a factor to be considered [I. 306]. The kind of inlet provided is a factor to be considered with respect to the pressure of the incoming liquid gas [I. 307].

But the **patent does not teach** what size chamber to use, what size inlet to employ, what size outlet to use; it does not teach the type of inlet to use, nor what changes to make in the inlet with respect to the pressure of the incoming liquid gas. Prof. Clapp recited a long list of factors not taught by the patent and necessary to construct and operate a press [II. 771-774]. In all of these particulars the patent is incomplete and as stated by the Court in Finding 21, the claims relied upon are "totally silent" as to many of the factors. The Court correctly stated, therefore, that:

> "The claims in issue are deficient in specifying those controlling factors necessary for the construc-

tion and operation of the apparatus and the performance of the method." [I. 76.]

As a matter of fact, plaintiff's expert testified:

"A. Oh, if counsel please, there are a great many things we have done with this press over a period of years that are not fully described in the patent." [I. 287.]

"A. * * * In other words, so far as I know, **this patent is not a complete disclosure** of the modern practice of utilizing this device." [I. 301.]

Jones admitted that the patent did not teach a long list of factors necessary in order to construct and operate the press and that at least some of these factors would eventually have to be determined as a matter of experimentation [I. 311].

As admitted by plaintiff's own counsel, the patent must be held invalid because of its incomplete disclosure.

The claims of the patent in suit are also invalid because they call for supplying a **"liquefied gas"** to the chamber (claim 4), or "means for supplying gas in fluid form" (claims 32 and 34). Even the method claim 38 calls for the step of "supplying a liquefied gas". Many gases can be liquefied, among them air, hydrogen, nitrogen, oxygen, etc., but **none** of them will produce dry ice except carbon dioxide; none of them will actually form a solid when the gas is expanded from liquid form into a chamber at atmospheric or higher pressure. Plaintiff admitted in answer to a request for admission [I. 645]:

"'Plaintiffs are informed that not all gases that may be liquefied may be solidified.'"

This was also admitted by Dr. Jones [I. 225]. In other words, plaintiff admits that the claims are broader than

its invention and that the claims refer to inoperative gases. The claims are misleading. The excessive, improper breadth of the claims is emphasized by plaintiff's brief which repeatedly refers to the "peculiar characteristics" of carbon dioxide, having "peculiar properties" (Pltf's. Brief pp. 3, 83). This is an admission on the part of plaintiff that the claims in suit are invalid under the rule well expressed in the *Incandescent Lamp Patent Case,* 159 U. S. 465, at 472, and followed by this Court in *Metals Recovery Co. v. Anaconda Copper Mining Co.* (C. C. A. 9), 31 F. (2d) 100, 103, wherein the Court stated:

> "No one of the four claims in suit names a specific substance, but each purports only to describe a class. * * * To say that appellant is claiming only such substances within the class description as was in fact good collectors is to beg the question. To obtain the monopoly afforded by a patent, the patentee is required to disclose what he has found, and not merely to suggest that something may be found by further and extensive experimentation."

A still further reason why the claims are invalid because they do not conform to the requirements of Statute R. S. 4888, lies in the fact that claim 39 calls for operation at a "definite" pressure, but such pressure is not defined either in words, figures, or by way of example, either in the specification or in the claim [II. 633].

In addition, Jones pointed out that the Cole and McLaren system permitted automatic operation at a very low pressure of less than 2 pounds by reason of the exhauster 81 and the diaphragm valve 84 [III. 1113, 1136-1137]. Jones admitted, however, that the patent does not

disclose the capacity of the exhauster nor does it teach at what pressure the exhauster is to operate [III. 1130-1132]. If the exhauster is an important element of the Cole and McLaren method of operation, then the claims fail to define the invention since there is no reference to an exhauster in any of the claims.

Moreover, the claims are invalid because of functionality. The functional character of the claims becomes apparent when one considers expressions such as the following in the claims:

> "for expansion to convert a portion of the liquid to a solid and a portion to a gas";
>
> "said plunger normally inactive during expansion of the liquefied gas and accumulation of the solidified gas in the chamber";
>
> "to press an accumulated mass of the solidified gas in the chamber into a dense block of solidified gas".

None of these phrases describes a structure; each simply refers to the function or natural result of the gas or of the pressing plunger.

The primary objection to functional claims is that they do not describe an apparatus in terms of mechanical arrangement of the parts but instead attempt to cover the end result. They do not inform the public whether a machine comes within the claims of the patent or not. Both the apparatus claims and the method claims of the patent in suit are invalid because they are functional in character. The apparatus is not novel and certainly invention does not lie in describing the normal use of an old apparatus. A patentee can not hide his alleged invention in functional statements. A claim is invalid if

it fails to clearly and definitely point out the alleged invention.

> "The difficulty of making adequate description may have some bearing on the sufficiency of the description attempted, but it can not justify a claim describing nothing new except perhaps in functional terms." (372-373)
>
> "But the vice of a functional claim exists not only when a claim is 'wholly' functional, if that is ever true, but also when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty." (371)
>
> *General Electric Co. v. Wabash Co.,* 304 U. S. 364.

That a functional claim is invalid was admitted by plaintiff.

> "The Court: Now, let me interrupt you, because I want to get those things clear in here. It is my understanding of the law of patents that you cannot get allowed certain claims for a device, apparatus claims for a device, and then follow the apparatus claims with an alleged method claim which alleged method claim is purely functional, simply describes how the machine which you have indicated in the prior apparatus claims functions; that claim is no good.
> Mr. Caughey: That is correct." [III. 1252.]

This Court has considered functional and invalid claims in

> *Otis Elevator Co. v. Pacific Finance Corp. et al.,* 71 F. (2d) 641 (C. C. A. 9);
>
> *Shull Perforating Co., Inc., v. Cavins et al.,* 94 F. (2d) 357 (C. C. A. 9).

The Supreme Court held method claims invalid where the apparatus claims were invalid and the elements to be used in the method were essentially the same.

> *Honolulu Oil Corp. v. Halliburton,* 306 U. S. 550, at 560.

Plaintiff contends that the press of the machine of the patent in suit eliminates tamping. **No structure which prevents tamping is specified in the claims,** and plaintiff is challenged to point it out.

Elimination of tamping was represented to the Trial Court by plaintiff's counsel as of the essence.

> "The Court: Yes. The only thing, then, that was inventive in nature, according to your contention, is that that operation was performed within the same chamber as that in which the snow was created, so that it did not have a chance for severe sublimation by exposure to the atmosphere, is that correct?
>
> Mr. Caughey: That is right; and did away with tamping such as the Martin snow tank has. That is correct." [III. 1253.]

Where is absence of so-called tamping mentioned in the claims? No such teaching is in the claims and therefore **the claims fail to point out the invention** and are invalid.

Finding 21 is based upon facts and should not be disturbed by fallacious arguments.

Each Element and Step of the Claims Is Disclosed in and Met Without Inventive Change in Prior Art Patents.

The Trial Court properly held that every element and step of the claims in issue is disclosed in prior art patents (Finding 28) and that the apparatus claims are met without inventive change in the prior art patents (Finding 29). These two findings may be considered jointly and are to be viewed in the light of unchallenged Findings 26 and 27.

Finding 26 holds that the solidification of carbon dioxide and its compression into blocks is disclosed in prior art patents. Plaintiff does not question this. Finding 27 holds that a unitary apparatus in which both the solidification and compression into blocks is performed, is disclosed in prior patents. Plaintiff does not question this finding.

These unquestioned findings mention many of the same patents which are listed in Findings 28 and 29. Reference to but a few of the patents will clearly show that the Court correctly found that every element of the claims is present in the prior art patents and that the apparatus claims are met without inventive change in these prior patents.

Professor Clapp (a graduate of the University of Minnesota, in engineering, in 1901; Professor at California Institute of Technology since 1918 and Professor Emeritus since 1944) testified that when he was a young man seventeen years old

> "* * * we made a brick press with the two plungers, different operating means, but the same idea of pressing the brick between the plungers and ejecting it with one of the plungers after the pressing operation." [III. 875.]

No one can question that a press consisting of a chamber, a removable closure head or bottom, and a pressing

plunger is an old, exhausted combination of parts. The Cartier patent No. 338,034, issued in 1886 [Ex. EE-1, IV. 1421], shows a press which contains the same elements as those defined in claim 33. Professor Clapp, in speaking of the showing of the Cartier patent, stated:

> "To summarize, there is disclosed a chamber or mold, closure head, means for opening the chamber on the outside, an outlet for fluid, either through the cap D or through the piston, or the ram C; a pressing plunger, a means for moving the plunger, one of them being through a pressure means." [II. 665.]

Plaintiff argues that anyone would have sense enough to provide an inlet into a press and that this is a part of the prior knowledge in the public domain which can be read into claim 33 of the patent in suit because this claim does not specifically call for a supply or inlet. Defendants can use the same prior knowledge which was in the public domain and provide an inlet to the Cartier press. If this is done, then the device would certainly be adapted for the solidification and compression of carbon dioxide, as stated by Professor Clapp [II. 770]. Upon cross-examination Dr. Jones admitted that he would provide an inlet and possibly get rid of the perforations in the platen of the plunger shown in the Cartier patent and then a feasible operation could be carried out in the Cartier press [III. 1183-1184]. Such minor expedients are not invention.

The Holden patent No. 530,526 [Defts. Ex. EE-3, IV. 1426] shows a press which is supplied with ice flakes instead of snow flakes and such flakes are then compressed into a block by means of a plunger provided with a few perforations so that fluid may pass through the piston. Certainly there is no invention in substituting carbon dioxide snow for water ice.

The patents to Flemming and Julius [Defts. Exs. EE-8 and EE-9, IV. 1444 and 1447] show devices in which carbon dioxide snow is made and compressed into cylinders. In the Flemming patent, No. 955,454, liquid carbon dioxide is admitted into a cylinder and the gas is permitted to escape through fine pores in such cylinder. After snow has been formed in the cylinder, such snow is compressed by means of the plunger d^1 operated by handle d^3. Dr. Jones admitted:

> "Fleming shows a carbon dioxide pencil making device which is hand operated, and requires for its successful operation only a degree of compressing, which is easily obtained by hand operation. This degree of compression produces a product of medium density, which is dense enough for use in medicine, for which the carbon dioxide pencils were intended, but is far below present commercial densities of solid carbon dioxide sold in the trade." [III. 1085.]

If the Flemming device is capable of producing solid carbon dioxide cylinders of medium density, then certainly the Julius device (patent No. 1,018,568) can produce solid carbon dioxide of much greater density. The Julius device includes a screw and hand wheel for imparting greater pressure to the piston 34. Dr. Jones admitted that there was no reason why sticks of solidified carbon dioxide two inches in diameter could not be made on these devices [III. 1121]. As a matter of fact, there is no reason why cylinders eight or ten inches in diameter could not be made on similar devices, the only objection raised by Dr. Jones being that a hand wheel presents increased difficulties in the handling of larger sizes, but he admitted that this **involves only a question of degree** [III. 1122].

Obviously, a change in degree only is not an inventive change. A valid invention can not be based upon increase

in size of an apparatus. It can not be based upon increase in density of the resulting product, when such increased density is due only to the application of more force, particularly since the patent in suit does not specify a critical density in words, figures, or by way of example.

The Holden patent No. 876,352 [Ex. EE-7; IV. 1439] shows a press which has a chamber, a removable closure head, a hydraulically operated pressing piston, a supply pipe, and a discharge pipe. Every element of the claims is shown in this patent and the machine itself was used in forming blocks of ice. The only objection raised by Dr. Jones to this patent was that he did not like the location of the inlet nor the perforations in the walls of the cylinder. The fact remains that the patent in suit does not define a "proper" location for the inlet and the perforations would not prevent the Holden machine from operating.

> "Q. It would be perfectly practical in the sense that you could produce and compress a block of carbon dioxide; that is true, isn't it? A. As a demonstration; yes.
>
> Q. You would save some power if you eliminated those perforations, is that correct? A. Yes; and you would eliminate other difficulties." [III. 1186.]

Another Holden patent which shows all of the elements of the claims is No. 1,054,772 [Defts. Ex. EE-10; IV. 1451] and particular attention is drawn to Fig. 2 of this patent since it clearly shows all of the elements referred to in the claims in suit [admitted by plaintiff's expert, III. 1125].

The Stastney patent No. 1,288,255, issued in 1918 [Ex. EE-12; IV. 1467], shows a vertical press including all of the elements. It will be noted that the inlet is provided with a valve 10 and there is an outlet for gas in the form

of a pet-cock 20. The piston 14 operates within the cylinder 6 so as to compress the material. Structurally, there is no difference between the press of the Stastney patent and the press defined in the claims in suit. An apparatus constructed in accordance with the disclosure of the Stastney patent was built and was demonstrated to the Trial Court as adapted for the formation of solid carbon dioxide and the compression of the CO_2 snow into a block within the single chamber. No changes were necessary in the apparatus in order to permit its use for the manufacture of solid CO_2 [II. 762]. Photographs of the apparatus actually demonstrated comprise Defendants' Exhibits JJ-1, JJ-2 and JJ-3 [IV. 1565-1568].

Since dimensions or changes in dimensions do not involve invention and since changes necessary to decrease or vary the degree of density in the product do not involve invention, and since it was old in the art to return unsolidified gas back to a gas-collecting system, Dr. Jones was asked to disregard these non-inventive changes and indicate those changes which are necessary to adapt the Stastney device for the production of solid carbon dioxide and its compression into a block. After first making an erroneous answer because he did not consider the premise upon which the question was based, Dr. Jones stated:

> "A. If you will pardon me, I am wrong and I will admit it. I had overlooked the fact that we are answering these questions leaving out of consideration a number of things, and one of those things is the changes necessary to produce a commercial density product. With that qualification, **no changes are necessary in Stastney** and it will produce a block without any alteration whatsoever." [III. 1191.]

The Stastney patent shows exactly the same elements, in the same relationship, as the elements specified in the claims of the patent in suit.

Elements of Plaintiff's Claims	*Stastney Patent*
Pressing chamber	Wall 6
Closure movable to close open end of chamber	Cover 18
Pressing plunger movable toward closure	Plunger 14
Means for moving plunger	16 – 17
Supply inlet	Inlet 10
Fluid outlet	Vent 20

The patent in suit does not teach a triple point operation but the Slate patent No. 1,546,681 [Ex. EE-15; IV. 1470] disclosed the preparation of triple point solid CO_2 [III. 1092]. This Slate patent was owned by predecessors of plaintiff.

Slate patent No. 1,643,590 [EE-18; IV. 1484] clearly shows all of the elements arranged to make solid carbon dioxide within the chamber 5, followed by the compression of the CO_2 snow into a solid block within the same chamber. Attention is particularly drawn to Figs. 5 to 8 of this patent, appearing at page 1486 of the record.

The Martin patents in evidence as Exs. EE-20, EE-21, and EE-24, disclose machines for making CO_2 snow and compressing the snow into a solid block within the same chamber. Two of these Martin patents are owned by plaintiff and were discussed by Professor Clapp in Vol. II, 744, 745, 747-754, 756-757.

British patent No. 7436 to Elworthy [EE-27; IV. 1539-1546] shows that as early as 1895 the formation of carbon dioxide snow and the compression of the material into block was well known. Attention is particularly called to Fig. 1 of this patent and especially the

right-hand portion of such figure, since the apparatus there shown bears a remarkable resemblance to the press of the patent in suit illustrated in Figs. 1, 2 and 3. The Elworthy press is also schematically illustrated on Chart II of this brief. The following language of the Elworthy patent is significant.

> "*f* is the double-walled solidifying chamber, also vacuum-jacketed, the bottom of the chamber is preferably made tapering, or funnel shaped as shewn, and leads direct into a hydraulic press, the ram or platten of which compresses any snow formed, into the removable box at *m*. The hydraulic press may however be entirely separate, * * *." [Page 4, lines 22-26.]

Clearly, therefore, the prior patents show every element and every step of the claims in issue.

Defendants' Ex. FF [VI. 1562] presents an analysis of all prior patents in tabular form.

The elements are shown in the prior patents in the same relationship which they have in the press of the patent in suit. The step of forming snow is simply the natural result obtained by supplying liquid CO_2 into a chamber; the step of compressing the snow is simply the function of the piston or plunger. All of the steps, including the manufacture of solid CO_2 under triple point conditions, are taught by these prior patents.

Plaintiff's expert, Dr. Jones, admitted (after the false argument of density was eliminated) that

> "* * * YOU CAN MAKE SOLID CARBON DIOXIDE IN ANY OF THESE PRIOR ART DEVICES; * * *." [III. 1086.]

Since the elements are old individually and in combination, and one can make solid carbon dioxide in any of them, Findings 28 and 29 are well supported by the evidence.

The Patent in Suit Lacks Invention in View of the State of the Art.

In view of the unchallenged findings (page 26 of this brief), the teachings of the prior art patents (preceding section of this brief) and the testimony of Prof. Clapp and Dr. Jones, it is inconceivable how any tribunal could hold that the patent in suit involved invention. The trial court correctly held that

> "The patent in suit lacks invention in view of the state of the art." (Last sentence, Finding 23.)

The judgment rendered is the only one possible.

The design of the patent laws is to reward those who make substantial inventions.

> "It was never the object of those laws to grant a monopoly for every trifling device, every shadow of a shade of an idea, which would naturally and spontaneously occur to any skilled mechanic or operator in the ordinary progress of manufactures."
>
> *Atlantic Works v. Brady,* 107 U. S. 192.

Presses employing all of the elements of the claims, in the same relation, were old for various purposes.

> "* * * As said in Saranac Machine Corporation v. Wirebounds Company, 282 U. S. 704, 713, 'Their adaptation to the new use was not the creative work of the inventive faculty. It was "but the display of the expected skill of the calling, and involves only the exercise of the ordinary faculties of reasoning upon the materials supplied by a special knowledge, and the facility of manipulation which results from its habitual and intelligent practice."' "
>
> *John Bean Manufacturing Company et al. v. Creagmile et al.* (C. C. A. 9), 123 F. (2d) 182.

Jones testified that any pipe fitter or mechanic could assemble the press and its associated piping to cause the plunger to exert sufficient pressure upon the snow in the press [III. 1109]. The same pipe fitter could utilize the machines of the prior art to attain an old objective, i. e., a block of solid CO_2. That is not invention.

In *Fernandez v. Phillips et al,* 136 F. (2d) 404, this Court cited with approval:

> "A mere carrying forward of the original thought, a change only in form, proportions, or degree, doing the same thing in the same way, by substantially the same means, with better results, is not such an invention as will sustain a patent."
>
> *Railway Supply Co. v. Elyria Iron Co.,* 244 U. S. 285, 292.

To the same effect:

Greene Process Metal Co. v. Washington Iron Works (C. C. A. 9), 84 F. (2d) 892;

Market Street Cable Ry. Co. v. Rowley, 155 U. S. 621, 629;

Belding Mfg. Co. v. Challenge Corn Planter Co., 152 U. S. 100, 107;

Roberts v. Ryer, 91 U. S. 150, 159;

Smith v. Nichols, 21 Wall. 112, at 118.

The facts in this case are so clear and the law so well established that it is unnecessary to further stress the correctness of the Trial Court's finding and conclusion.

Defendants Have the Right to Use Prior Knowledge in the Public Domain.

Plaintiff is upon the horns of a dilemma. When plaintiff argues that the claims, in their incomplete form, are sufficiently complete to avoid R. S. 4888, it is forced to supply the deficiencies from prior knowledge in the public domain (some of which knowledge is in Finding 23). But by so doing, plaintiff convincingly proves that the claims are devoid of invention.

Plaintiff has admitted that it takes a lot of knowledge, not disclosed in the patent in suit, to be able to build and operate the press. Plaintiff says that the necessary knowledge is a part of the prior art in the public domain. It has, moreover, admitted that all of the elements and steps of its claims are old, and the evidence shows that the combinations (or aggregations) of elements are old.

Defendants urge that they have a right to use the **same prior knowledge** and old elments without infringement. How can plaintiff use this old knowledge in attempting to save its patent, and at the same time prevent defendants from using such prior knowledge?

What is sauce for the goose is sauce for the gander. Plaintiff cannot blow hot and cold at the same time.

The Patent in Suit Is Anticipated by the Prior Construction and Operation of the Martin Machine.

Findings 18 and 19 (and Conclusion of Law 6) refer to the construction and operation of a unitary machine for solidifying and compressing carbon dioxide by James W. Martin during the first part of 1925. This prior use is unequivocably and convincingly supported by the evidence. Findings 18 and 19 are set forth in Vol. I, pages 75-76. The evidence pertaining to this prior use is well discussed in the Trial Court's opinion [V. 1622 to 1645].

Mr. Martin is a nationally known engineer with offices at New York City. Prior to 1925 he had been in the United States Army's Ordnance Department, had been with the Tennessee Copper Company as superintendent of one of their plants, and for about four years had been with the Union Carbide & Carbon Company in charge of their Research Department, where work was done on high pressure gases.

In January of 1925 Mr. Martin entered into a formal contract of employment with Prest-Air Corp. (predecessor of Dryice Corporation of America), as evidenced by Deft. Ex. S [III. 1391]. He was given data concerning carbon dioxide, and a sketch of a machine by Pierre E. Haynes, a chemical engineer previously employed by Prest-Air. Defendants' Exhibit N [IV. 1375] is a rough sketch, made from memory during trial, similar to that given Mr. Martin by Haynes. The machine shown on this sketch is similar to that shown in the Haynes British patent No. 263,922 of 1926 [see Ex. EE-31; IV. 1561, elements 36, 37, 38, 39, 40]. Any good mechanic could build a machine from such sketch [II. 535-536].

The machine was built for Martin by Eppenbach, Incorporated, of Long Island City, a concern that has been in business in the same location for thirty years. A more complete sketch of the machine built by Martin and Eppenbach appears as Defendants' Exhibit L [IV. 1373]. It is to be noted that this machine bears a marked similarity not only to the Haynes British patent but also to the Elworthy British patent [Ex. EE-27; IV. 1538], and the machine shown in Figs. 1, 2 and 3 of the patent in suit. The apparatus first built by Martin was described by him at II. 527-528. He testified that the machine was built from instructions, sketches and drawings given Eppenbach [II. 536]. Eppenbach testified that the machine (known as the "snow machine") was built under his supervision.

"A. Yes. We had both a pattern and a machine shop. We made the wood patterns, sent them out to a foundry right across the street, got the castings and machined them.

Q. 28 Did you assemble the machine? A. We assembled the machine.

Q. 29 Did you witness the machine in operation? A. Yes.

Q. 30 Where was it operated? A. We set it up at the Liquid Carbonic plant in Maspeth." [III. 1257.]

Mr. Martin testified that the machine was actually placed in operation at Maspeth, Long Island, in March of 1925 [II. 538]. This was the plant of the Liquid Carbonic Company, from whom Martin obtained liquid carbon dioxide for use in the press.

Eppenbach testified from recollection as to the construction and arrangement of the machine, and his testimony corroborates Martin and Defendants' Exhibit L.

"Q. 83 Can you tell us from your recollection Mr. Eppenbach, briefly but enough to indicate its nature, what kind of machine, if any, you made for Pressed Air Corporation in 1925? A. We made a compressor type of machine that was designed to compress dry ice into a square cylinder; possibly between three and four inches square.

Q. 86 What provision was there for introducing any material into that cylinder? A. We had a side entry for the CO_2 gas and an escape from the top which we had a cylinder mounted with a canvas bag. The gas going through the cylinder produced a snow-like material.

Q. 87 Where was that snow material produced? A. It was produced right inside of the cylinder; the steel cylinder; not the wood cylinder. We had a wood chamber, barrel type on top of the machine.

Q. 89 After this snow formed in the cylinder, what was done with it? A. It was compressed by the piston action." [III. 1264-1265.]

A bill book was produced by Eppenbach and pertinent pages were introduced in evidence as Defendants' Exhibit R. These documents were positively interconnected to the machine. The records have numerous references to work actually done on the snow machine, in accordance with instructions given Eppenbach by Martin. For example, the third item from the bottom on page 240 of the Eppenbach records [IV. 1378] relates to machine work on the piston or plunger [Eppenbach, III. 1269]. The following item relates to the stuffing box to hold back the pressure within the chamber. The last item on that page refers to the casting which supports and holds the main cylinder upon its base. The term "snow machine" was identified by Eppenbach as the machine that was being made to manufacture dry ice [Eppenbach, III. 1270]. The main cylinder was split lengthwise and bolted together so that a square block could be extruded, the block measuring 3½" x 3½".

Not only does Martin testify that this machine was placed in operation in March of 1925 but Eppenbach testifies that he saw the machine in operation at the plant of Liquid Carbonic at Maspeth [III. 1257, 1267]. Eppenbach was very interested in this new machine and actually sold the first blocks of dry ice made in that machine to Schrafft's ice cream store in New York [III. 1268]. It is to be remembered that this was a relatively new industry and dry ice was not well known. Obviously, a more accurate and vivid impression is left on the minds of those who are working on a new enterprise. The layman did not know much about the properties of carbon dioxide; Eppenbach vividly remembered that when blocks of dry ice were used in a refrigerator of the Hofbrau House,

the gas given off by the blocks killed the lobsters [III. 1279].

During the next two months (April and May, 1925) some changes were made in the machine. The changes are progressively illustrated by Defendants' Exhibits O and P [IV. 1376-1377]. The three steps comprised first removing the large cylindrical snow chamber so as to reduce the size of the so-called snow tank, and moving the CO_2 inlet down to the base of the cone [Martin, II. 541-542]. The next simplification was to take off the cone altogether and to place a screen in the gas return line, as indicated in the top diagram on Exhibit P [II. 542]. Finally, a wedge or pyramidal screen was installed as indicated in the lower diagram on Exhibit P and liquid carbon dioxide was introduced directly into the chamber through which the piston traveled [II. 543-544]. In other words, Martin went through substantially the same alterations during April of 1925 as those indicated in Chart II, opposite page 20 of this brief. Martin's testimony on this point is as follows:

> "Q. By Mr. Miketta: When was this last modification which you have indicated as Fig. 3 of Exhibit P completed, to the best of your recollection? A. The first time we put a pyramid in there, that is, a pyramidal-shaped screen in there was, I think, the last of April, or the first of May. The last one we put in was around the middle of June; so it was over that period that I know we were using it.
>
> The Court: In what year? A. 1925."
>
> * * * * * * * *
>
> "Q. By Mr. Miketta: As soon as you put in this pyramidal screen you moved the liquid injection inlet into the body of the press? A. Into the press chamber, in front of the piston.
>
> Q. Why did you move it down there? A. We wanted to form ice down in the press chamber. If

we had left it up in the adapter press it would have impinged it against the screen, and would have tended to freeze the screen up so the gas wouldn't go up." [II. 545.]

Hood reached Maspeth about April 10, 1925 [III. 1914-1915] and he testified that Exhibit L answers the description of the machine which he first observed in operation when he came to Maspeth [III. 915]. His description of the machine was as follows:

"* * * It was a single unit, or unitary machine, composed of a hopper, wherein the snow was formed, with a conical bottom, vertical, which discharged downward into a square chamber, in which a plunger operated and compressed the snow into blocks. This was driven by a crank shaft and belt and motor. It formed blocks of ice of compressed solid carbon dioxide, of approximately 3½ by 3½ by 8, which was the length which we were trying to form." [III. 956.]

Hood corroborates Martin and Eppenbach by stating that blocks were being made with that machine and shipped out at the time he arrived [III. 915]. The alterations shown on Defendants' Exhibits O and P were well remembered by Hood. He stated that within two or three days after he arrived the upper cylindrical portion was removed [III. 921-922] and he distinctly remembered the pyramidal inverted screen and the fact that liquid CO_2 was injected **directly** into the side of the compression chamber [III. 923].

"A. I don't know that I drilled the hole, but at least I directed it.

Q. Do you remember the drilling or having a hole drilled into the side of the chamber? A. Yes." [III. 923-924.]

The Eppenbach records substantiate these modifications and it is to be noted that the last item on page 416 of the Eppenbach records [IV. 1383] refers to a pyramid shape piece for the snow machine (dated April 25) whereas the penultimate item on page 418 [IV. 1384] refers to a pyramid shape piece covered with brass mesh. Eppenbach's testimony is clearcut.

> "Q. 171. The next to the last entry on page 418, Mr. Eppenbach, under date of April 25th, it says: 'Make pyramid shape piece for experimental purposes on snow machine No. 1 covered with brass mesh.' A. That was the pyramid member that we used to replace the canvas that was originally had. We had that set right down above the piston.
>
> Q. 172. What was the function of that pyramid-shaped piece? A. That was a piece of heavy punched or corrugated steel covered with wire cloth. It was brass mesh. It was a wire cloth. To substitute for the canvas bag.
>
> Q. 173. Did that permit some gas to escape? A. Yes, that would permit the gas to escape and the snow would form and fall from that wire mesh.
>
> Q. 174. Would snow form above it in some cases from the escaping gas or you mean below it? A. No. Below.
>
> Q. 175. And below would be where with reference to the cylinder? A. In the cylinder.
>
> Q. 176. Did you see that machine in operation with that pyramid shaped screen on it? A. Yes, I saw that in operation." [III. 1275-1276.]

The evidence therefore conclusively shows that Martin constructed a unitary machine somewhat similar to that shown in the prior Haynes patent and that this machine was modified in much the same manner as in Chart II of this brief, during April and May of 1925, through the stages shown in Defendants' Exhibit O and P.

There is positive evidence that the machines were **openly and notoriously used.** The evidence shows, for example, that the Martin machines were out in the open on the ground floor of the Maspeth plant [II. 558; III. 925, 953]. Any visitor to the plant could see the machine [III. 943].

> "Everybody who came into the office of Liquid Carbonic had almost to brush by it, because the entrance to their office was right next to it." [III. 924.]

There were many visitors, including officers of Liquid Carbonic [II. 558; III. 924, 939, 943, 955].

No instructions were given to keep visitors out [II. 558; III. 925].

> "Some were rather interested, and stood around half an hour or so." [III. 956.]

The Martin unitary machine was **commercially used;** it produced blocks of solid carbon dioxide, which were sold. Between ten and twenty tons (20,000 and 40,000 pounds) of such blocks were made on the Martin unitary machine and sold prior to July, 1925 [II. 576-577]. Hood personally made sales to people who came to the plant [III. 919] and testified to a number of specific customers and that regular shipments of these blocks were made to Montreal, Canada [III. 920]. Blocks were also shipped to Philadelphia [II. 555].

Plaintiff's specious argument that the blocks were not of "commercial density" can not prevail over uncontradicted, clear-cut evidence of commercial use. The Martin blocks were shipped to Canada; they certainly were of commercial density; the patent in suit does not define commercial density.

The demand for dry ice increased rapidly, beyond the capacity of the Martin machines, by May of 1925. Simultaneously, customers began demanding larger blocks than 3½" x 3½" x 8" blocks made on the Martin machine. Martin could not get money appropriated for a larger machine [II. 593] so he installed snow tanks in June of 1925 to increase his production in an inexpensive manner, since snow tanks cost but a fraction of the cost of a Martin press.

Lack of funds was corrected by reorganization and refinancing in 1927 or 1928 [II. 583; III. 940].

Positive proof of prior use by Martin can not be minimized on the ground that Martin lacked funds to build a larger machine and did not have a

> "* * * structure of skilled representatives, patent experts, mechanical engineers, supersalesmen, persuaders, business organizers and executives and geniuses of monopoly and protection."

It is not necessary that the prior machine be the best or in the highest form of development.

> "If it were manifest that the thing claimed in the patent is accomplished, one use would be sufficient. If the construction of the thing of itself demonstrated that it was within the principle here stated, then perhaps no use need be established."
>
> *Sayles v. Chicago & N. W. R. Co.,* Federal Case No. 12,415.

This Court held a patent invalid by reason of **prior existence** of a device, in *Monogram Mfg. Co. v. F. & H. Manufacturing Co.,* 144 F. (2d) 412, stating:

> "* * * It is sufficient to establish anticipation of rotatability of the housing about such a clamp's legs that in 1940 the rotable Finkle clamp was in ex-

istence in plaintiff's attorney's office and was put to the business of demonstration for sale even though no orders at all were procured. Automatic Weighing Machine Co. v. Pneumatic Scale Corporation, Ltd., 166 F. 288, 292 (CCA 1); Deller's Walker on Patents, Vol. 1, pp. 377-81; Vol. 2, pp. 920-30; Christie v. Seybold, 55 F. 69, 76 (CCA 6)."

The mode of operation of the Martin machine is identical to the mode of operation of the patent in suit so that the Martin machines employ the same elements in the same relationship and in the same manner as the press of the patent in suit and the same as defendants' machine. Liquid carbon dioxide was introduced into a closed chamber. A part of the liquid was converted into solid and a part into gaseous carbon dioxide. The unsolidified gas was permitted to return to the system, while the solid collected in the press. The mass of solid was then pressed into a block [III. 945-946]. The supply of liquid carbon dioxide was shut off before the machine was started to compress the snow into a block [III. 947]. A relief valve to atmosphere was put in [II. 579]. Blocks were made with a single stroke of the pressing plunger [III. 969].

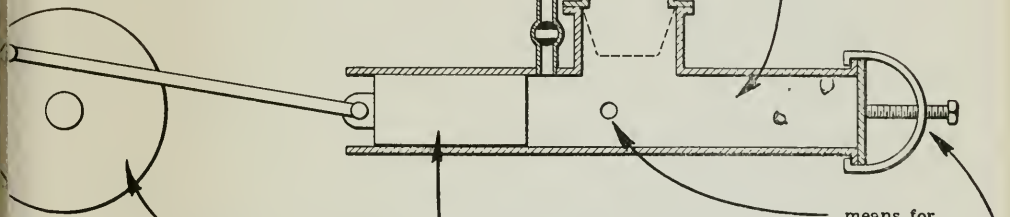
Chart III, appended hereto, is a facsimilie of Defendants' Exhibit L and shows the Martin press as it was employed in the spring of 1925. The various phrases of claim 31 have been applied to this machine. This chart convincingly shows that every element required by this claim is met in the Martin machine. A similar direct application could be made with all of the other claims in suit.

There was nothing "embryonic or inchoate" in the Martin machine. It was constructed; it operated; and the products of its operation were widely sold. Plaintiff's attack upon Findings 18 and 19 is not made in good faith.

31. In a gas solidifying and block forming apparatus,

a normally closed and gas-tight solidification and block pressing chamber;

means for withdrawing the unsolidified gas from the chamber during accumulation of a mass of solidified gas in the chamber;



nger to press an accumulated mass of the idified gas in the chamber into a dense, block solidified gas,

means for supplying a liquefied gas to said chamber when the chamber is closed for expansion to convert a portion of the liquid to a solid and a portion to a gas;

a pressing plunger in the chamber movable to press an accumulated mass of solidified gas into a block, said plunger normally inactive during expansion of the liquefied gas and accumulation of the solidified gas in the chamber;

and means for opening said chamber after completion of the block by said pressing plunger for removal of the block from the chamber.

Fitzpatrick, Sherwood, Black and others mentioned by Martin and Hood worked with Martin during the spring of 1925. Plaintiff knew long before trial that defendants would rely upon the Martin prior use which took place on their own grounds in New York and Long Island. Plaintiff did not produce a single witness to contradict the testimony of Martin, Hood and Eppenbach.

In its brief plaintiff attempts to make a case out of whole cloth by referring to minor instances where Martin and Hood did not make absolutely "yes" or "no" answers. Of course neither Martin nor Hood would state that the Martin machine operated perfectly, without alterations and some troubles. Martin and Hood were telling the truth. It is normal for a new machine to have "bugs" which require adjustment and correction. It would have been surprising, to say the least, to have them testify that the first machine, built from rough sketches, operated continuously and perfectly from the moment the power was turned on. Martin and Hood were not fabricating evidence; they were testifying as to facts and the facts are that the machine constructed and operated by them in the spring of 1925 answers every requirement of the claims of the patent in suit, as conclusively proven by their testimony, the corroborative documentary Eppenbach records, and plaintiff's inability to present an iota of contradictory evidence.

The Trial Court was familiar with many cases cited by plaintiff in its brief; two full pages of the Trial Court's opinion are devoted thereto.

Plaintiff cites a number of cases which do not appear to be pertinent. For example, in *Kings County Raisin & Fruit Co. v. United States Consolidated Seeded Raisin Co.,* 185 Fed. 59, no question of prior use was involved.

In *Coffin v. Ogden,* repeatedly cited by plaintiff, prior use was sustained because the lock was "complete and capable of working" (85 U. S. 120, at 125).

Certain the Martin machine was complete, capable of working, and actually in commercial use.

The Martin prior use was not an experiment; it was the foundation of a national industry which is now open to any enterprising American. The Martin machine reached a point of consummation where it was producing tons of blocks, and such blocks were being sold and used. The Trial Court saw, observed and heard plaintiff's witnesses and was convinced of the reasonableness and truthfulness of their testimony. Plaintiff failed to shake the testimony by cross-examination and failed to produce any contradictory evidence. Findings 18 and 19 and Conclusion 6 should be affirmed.

The Claims Are for Aggregations of Old Elements and Steps and Invalid.

The Trial Court correctly concluded that the claims of the patent in suit are invalid as covering an aggregation of old elements and steps (Conclusion 12) and such conclusion is based in part upon Finding 24 [I. 79].

The Court properly found that the elements and steps which relate to solidification of CO_2 are independent of and are performed independently of the elements and steps which relate to compression of the snow into a block. This is perfectly obvious. Snow formation is the natural result of introducing liquid CO_2 into a chamber kept at a pressure below about 60 pounds. Snow will form in such a chamber whether there is a pressing plunger in it or not. The pressing plunger is of no use until snow has formed and there is something for the plunger to compress.

Plaintiff acknowledges that Martin used a snow tank and a press in making blocks before the earliest dates alleged by Cole and McLaren and three years before the filing date of the patent in suit. A diagram showing the arrangement employed is shown in Plaintiff's Exhibit 6 [IV. 1330]. Solidification took place in the snow tank, the snow was then placed in a mold, and the mold was then placed in a press which squeezed the snow into a block. Certainly the **operation of forming the snow in no way modifies or affects the operation of compressing it** and this was admitted by plaintiff's expert Jones.—

> "Q. That is, the snow tank operated entirely independently of the press and was not modified or affected in any way by the operation of the press? A. That is correct.
>
> Q. And conversely, it is true that the press operated entirely independently of the snow tank? A. That is correct.
>
> Q. And the pressing operation that was performed by the press was in no way modified or affected by the proximity or operation of the snow tank? A. That is correct." [I. 229.]

By putting the snow tank directly on top of a horizontal press, we obtain a machine of the horizontal type, as illustrated in Figs. 1 and 2 of the patent in suit and in Chart II. Snow is formed in 50 and drops into 60 into the path of the piston. Jones admitted that snow formation in 50 and compression in 60 were independent—

> "* * * in the sense that they are two separate operations performed in the same closed apparatus * * *." [I. 231.]

As previously pointed out, the horizontal press of the patent is the **equivalent** of the vertical press; both of these presses can be interchangeably used commercially [I. 197, 272-273; III. 1167-1168, 1199]. Mr. Martin also testified that there is **no difference in result**—

> "Q. Is a different result obtained by compressing carbon dioxide in the same chamber, in which it was formed, than that obtained by forming the solidified carbon dioxide in one chamber and compressing it into another?
>
> * * * * * * * *
>
> A. There is no difference." [II. 572.]

Since the facts substantiate the Court's finding, it should not be disturbed. The conclusion of law is inescapable; the claims are invalid because of aggregation. As well stated by this Court in *Fernandez v. Phillips,* 136 F. (2d) 404:

> "Old elements may be combined into patentable invention, but, 'so long as each element performs some old and well-known function, the result is not a patentable combination, but an aggregation of elements'. Richards v. Chase Elevator Co., 158 U. S. 299. See also, Mantle Lamp Co. v. Aluminum Products Co., 301 U. S. 544."

The language employed by Mr. Justice Strong in *Hailes v. Van Wormer,* 20 Wall. 353, 368, is particularly applicable.—

> "Merely bringing old devices into juxtaposition, and there allowing each to work out its own effect, without the production of something novel, is not invention."

This fundamental rule has been restated in many cases, among them:

Pickering v. McCullough, 104 U. S. 310;

Knapp v. Morse, 150 U. S. 221, at 227;

Lincoln Engineering Co. v. Stewart-Warner, 303 U. S. 545, at 549-550;

Toledo Pressed Steel Co. v. Standard Parts, Inc., 307 U. S. 350, at 355-356;

Cinema Patents Company, Inc. v. Columbia Pictures Corp. (C. C. A. 9), 80 F. (2d) 332.

Plaintiff Admits That Defendants' Machine Contains the Same Elements, Operating in the Same Manner, as the Elements of Prior Art Machines.

Finding 31 states that defendants' machines contain the same elements, in the same relationship, as in the presses of the prior art, including the Martin machine. It states that defendants' machines do not involve inventive change over the prior art.

Although this finding is listed among the specification of errors (Pltf. Br. p. 21), **no argument has been presented** on this point by the plaintiff. In accordance with the rule recently stated by this Court in *Peck et al. v. Shell Oil Company, Incorporated, et al.* 142 F. (2d) 141, plaintiff has **abandoned** its objection to Finding 31. As stated in the *Peck case, supra:*

> "With respect to many of the 'points' stated by appellants no argument or discussion is presented in their opening brief. Therefore, those 'points' are deemed abandoned and need not be considered herein. Moore v. Tremelling, 9 Cir., 100 F. 2d 39, 43;

Paramount Productions, Inc. v. Smith, 9 Cir., 91 F. 2d 863, 866; Liquid Veneer Corporation v. Smuckler, 9 Cir., 90 F. 2d 196, 206; Forno v. Coyle, 9 Cir., 75 F. 2d 692, 695."

Plaintiff apparently abandoned its objection to this particular finding because the evidence is uncontradicted and unassailable. Defendants' press, like any other press, whether it be for brick, cotton, olives, or CO_2 snow, includes a chamber, a piston or plunger, movable in the chamber, and a closure against which the material may be compressed. It is also provided with an inlet for liquid, an outlet for gas, and a vent to the atmosphere. These are exactly the same elements which were used in the commercial production of solid CO_2 in the anticipating Martin press in the spring of 1925. These are exactly the same elements which can be found in a number of prior art presses. The testimony of Wells on this point [Defs.' Ex. NN; IV. 1579; III. 906-909] emphasizes the fact that defendants' machine is composed of elements having the same relationship and mode of operation as the elements of prior patents. It is significant that plaintiff did not cross-examine Wells on this point.

Certainly defendants can use the teachings of all of the prior patents included in Defendants' Exhibit EE. Their press is simply an enlarged version of the Stastney press [Defs.' Ex. EE-12; IV. 1467].

The Acts of Defendants Do Not Constitute Infringement.

Finding 30 forms the basis for Conclusion 13, which holds that defendants have not utilized any invention of the patent claims in issue.

Clearly the claims of the patent in suit are invalid. It is fundamental that **one can not infringe an invalid patent.** The rambling discussion on pages 101 to 117 of plaintiff's brief is a maze of confusing inconsistency and sophistry, which does not and can not evade the factual soundness of the Court's ruling.

Pages 11 to 13 of this brief point out that the claims of the patent in suit are limited to the use of an air-tight, sealed, closed chamber. The evidence convincingly shows that defendant did not use a sealed chamber; they employed an air vent and even opened the bottom of the press before compressing the snow [I. 384, 386, 389-390, 398-400, 411; II. 509-510-511; III. 1057]. 5% of the carbon dioxide fed into the chamber escaped from that chamber [II. 450]. Defendants therefore did not use a closed, sealed, or air-tight chamber.

Plaintiff's expert pointed out that if there was any invention in the Cole and McLaren patent it resided in the use of exhauster 81, which automatically regulated and maintained the constant or "definite pressure" of two pounds or less in the snow chamber [III. 1135, 1107, 1113, 1171, 1130-1131]. Defendants did not use an exhauster; they never operated at a constant or definite pressure of two pounds or less. Plaintiff's Exhibits 14

and 15 show operation at a variable pressure up to 68 pounds.

In addition, it is to be remembered that defendants' presses were composed of old elements in the **same relationship** that those elements are found in prior art patents, functioning in an old manner [Wells, III. 906-909; Defs.' Ex. NN; IV. 1579]. There can be no infringement by the use of devices which are in the public domain. Defendants can not violate a right which does not exist. Finding 30 and Conclusion 13 are amply supported by the evidence and should not be disturbed.

Conclusion.

Defendants submit that when the cloak of sophistry and baseless arguments, within which plaintiff attempts to hide the patent in suit, is stripped away and the patent is examined in the cold light of facts, admissions and testimony, only one conclusion is possible.

The patent in suit is invalid because it was not issued to the first inventors of that which is claimed therein.

The claims of the patent in suit are invalid because they relate to old elements in an old relationship, and do not define an invention over the prior art.

The construction and operation of the unitary Martin machine completely anticipate the claims in suit.

The claims are void because they are for an aggregation and not an invention.

The claims of the patent in suit are invalid because they do not define the alleged invention with the particularity required by R. S. 4888. Claims 4, 31, 32 and 33 are

incomplete and inoperative; claims 4, 31, 32, 33, 34, 36 and 38 refer to liquefied gas and are too broad since liquefied gases as a class are inoperative.

The judgment and decree of the Trial Court should be affirmed, with costs to defendants-appellees.

Respectfully submitted,

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